Having thus described the preferred embodiments, the invention is now claimed to be:

1.   A method of image compression, said method comprising the steps of:

(a)   digitizing an image;

(b)   segmenting the image in a plurality of different manners to generate a plurality of segmented images;

(c)   compressing each of the segmented images;

(d)   determining a bit rate for each of the compressed images;

(e)   determining how much image distortion results from each compression; and,

(f)   selecting the manner of segmentation which results in an optimal compromise between the rate and distortion.

2.   The method according to claim 1, wherein the segmenting is carried out using a 3-layer MRC model.

3.   The method according to claim 1, wherein step (e) further comprises:

reconstructing the compressed image; and,

calculating the distortion from the reconstructed image.

4.   The method according to claim 3, said method further comprising:

(g)   re-compressing the reconstructed image corresponding to the selected manner of segmentation.

5.   The method according to claim 1, said method further comprising:

(g)   outputting the compressed image corresponding to the selected manner of segmentation.

6.   The method according to claim 1, wherein the optimal compromise between the rate and distortion is achieved when a weighted sum of the rate and distortion is at a minimum.

5   7.   The method according to claim 6, wherein the weighting of the sum is set to favor one of the rate and distortion over the other.

8.   The method according to claim 6, wherein the
10   weighting of the sum is adjustable.

9.   An image compression system for compressing an input image, said system comprising:
      a first processing bank, said first processing bank
15   including an array of first processors, wherein each first processor has a distinct coder which separately carries out coding to segment and compress the image, said first processors each outputting a bit rate and image distortion measurement resulting from their respective codings; and,
20   an optimization engine which receives each pair of the rate and distortion measurements from the first processors, said optimization engine selecting the first processor having an optimized compromise between the rate and distortion measurements.
25

10.   The image compression system according to claim 9, wherein the coders of the first processors segment the image using a 3-layer MRC model.

30   11.   The image compression system according to claim 9, wherein the optimization engine calculates the optimized compromise between the rate and distortion measurements using a cost function which is a weighted sum thereof, said optimization engine selecting the first processor whose
35   associated cost function is lowest.

12. The image compression system according to claim 11, wherein the weighting of the sum is adjustable.

13. The image compression system according to claim 9,
5 wherein each of the first processors further includes a decoder which reconstructs the image from the coder, said reconstructed image being a basis for the distortion measurement.

10 14. The image compression system according to claim 13, said system further comprising:

a second processing bank, said second processing bank including an array of coders, wherein the reconstructed image from the selected first processor is transmitted to a
15 corresponding coder in the second processing bank for re-coding, said re-coding being the same as the coding carried out by the selected first processor.

15. The image compression system according to claim 9,
20 wherein the compressed image from the selected first processor is output by the system.

16. The image compression system according to claim 15, wherein the image compression system is incorporated in a
25 document processing network such that the compressed image is routed over the network to an output device in compressed form.

17. The image compression system according to claim 16,
30 wherein the output device is selected from the group consisting of a printer, a digital copier, a xerographic copier, a fax machine, a monitor, and a storage device.